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**Notes Questions for the Unit 1, Part 1 Notes – Evolution Basics**

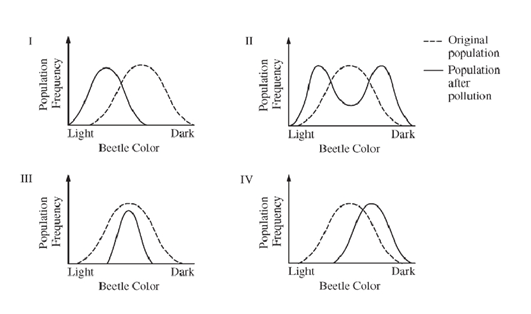
Mrs. Krouse, AP Biology, 2015-2016

***Vocabulary:*** *For each of the terms listed below, fill in the definition given in the notes in the second column. There may be two alternate definitions in the notes, so you can choose one or record both of them. In the third column, rewrite the definition of the term in your own words. In the fourth column, I may provide you with a memory trick and/or ask you to break down a term into its parts to better understand its meaning.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Vocabulary Term and Synonyms** | **Definition(s) Given in the Notes** | **Definition in Your Own Words** | **Memory Trick and / or** **Breaking down the Word** |
| Evolution |  |  | N/A |
| Adaptation |  |  | N/A |
| Natural Selection |  |  | **Breaking Down the Word:** How do “nature” and “select” help clarify the meaning of this term? |
| Fitness |  |  | N/A |
| Artificial Selection |  |  | **Breaking Down the Word:** How does “artificial” help clarify the meaning of this term? |
| Transitional Fossils |  |  | **Breaking Down the Word:** How does “transition” help clarify the meaning of this term? |
| Homologous Structures |  |  | **Memory Trick:** When you think homologous structures, think “home”… you live at home with your relatives and have common ancestors  **Breaking Down the Word:** Look up the meaning of “homo.” How does this help clarify the meaning of this term? |
| Analogous Structures |  |  | **Memory Trick:** When you think analogous structures, think “across the street”… the people across the street are usually not related to you and have different ancestors  **Breaking Down the Word:** Look up the meaning of “ana.” How does this help clarify the meaning of this term? |
| Vestigial Structures |  |  | **Breaking Down the Word:** Look up the meaning of “vestige.” How does this help clarify the meaning of this term? |

***Practice Questions:*** *Answer the following questions thoroughly and accurately in complete sentences.*

1. Identify one problem with Lamarck’s theory of use and disuse or his theory of the inheritance of acquired characteristics.
2. Why couldn’t giraffes evolve in the way Lamarck claimed?
3. List the essential parts of Darwin’s theory of natural selection in your own words.
4. How is natural selection related to evolution?
5. How are mutations related to natural selection?
6. Explain why the following phrase is incomplete / incorrect: survival of the fittest.



1. Which of the following best represents how a beetle population will evolve after the population has been exposed to a predator that only eats dark colored beetles? Explain your choice.
2. Suppose a population of sheep evolved thicker coats. Would this be considered an adaptation in every environment? Explain your response.
3. Scientists noticed that over time, a population of birds evolved larger beaks. Describe one POSSIBLE environmental change that could have resulted in this trend.
4. Some individuals in a population of bacteria that infect humans (ex: strep throat bacteria) have a mutation that makes them resistant to antibiotics, the drugs used to kill bacteria in infected humans. The other members of the bacterial population do not have this mutation, and are easily killed by antibiotics. Initially, 10% of the bacterial population is antibiotic-resistant, while the other 90% is not resistant. How will the population of bacteria evolve over several generations if it is exposed to an antibiotic in its environment?
5. Explain how the fossilized species *Archaeopteryx* (i.e. a transitional fossil) provides evidence that modern birds may have evolved from ancient reptilian species.
6. If two species (ex: chimpanzees and gorillas) have very similar DNA sequences, what does this indicate about these two species?